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(54) Framed lenses for use in a protective helmet

(57) An optical aid 12 comprises a frame 2 formed preferably from a pliable plastics material. Formations 3 at the top and bottom of the frame 2 form grooves 4 for receiving lenses 5. Stop members 6 and 7 at either end of the frame 2 retain the lenses 5 in position. A selection of different lens powers are provided. In use each welder is provided with a frame 2 fitted with a set of standard lenses chosen from the range in accordance with the age and his anticipated working distance. The welder can then secure the frame 2 and lenses 5 in his helmet.

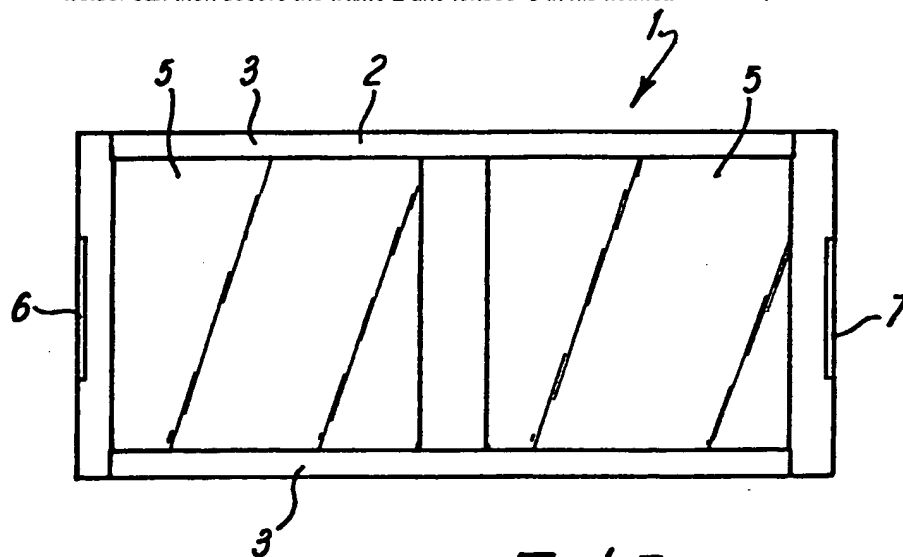


Fig. 1

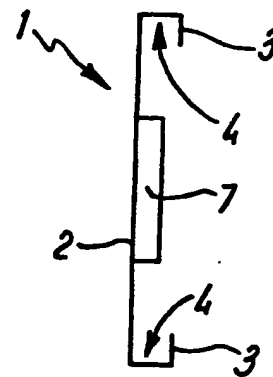


Fig. 2

At least one drawing originally filed was informal and the print reproduced here is taken from a later filed formal copy.

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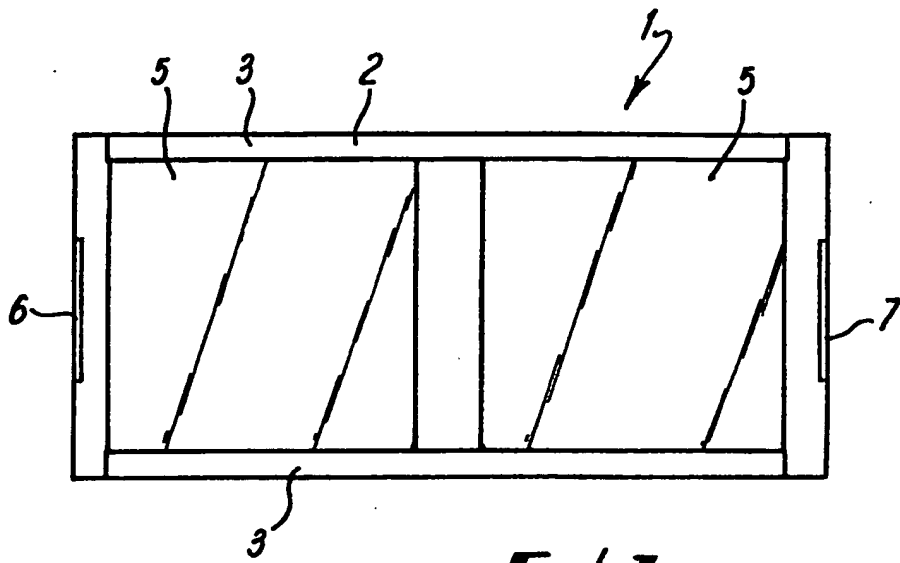


FIG. 1

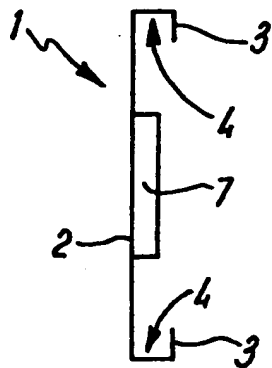


FIG. 2

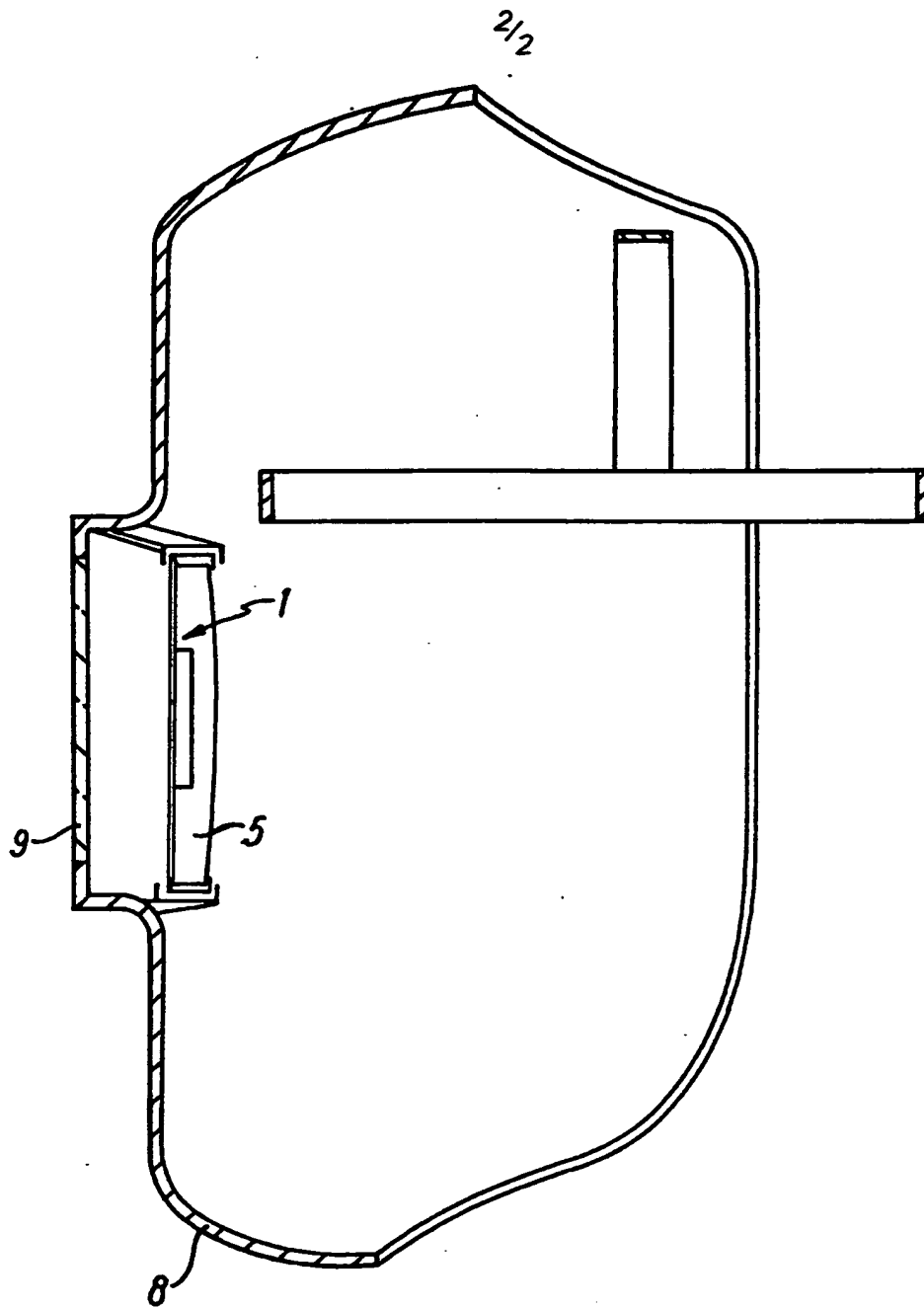


Fig. 3

"Optical Aid"

This invention relates to an optical aid and in particular to such an aid for use by welders.

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A large proportion of the population as they become older become presbyopic meaning that they either require no glasses for distance vision but need glasses for near work or require a different prescription for near work from that being worn for distance vision. Opticians can at present supply bifocal prescriptions for such people but the use of bifocals or the need to change prescription is very inconvenient for welders using the standard form of welding helmet due to the need to look downwardly for close work.

10 Due to the limited field of view through the visor of most welding helmets this can be an extreme inconvenience.

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An object of the present invention is to obviate or mitigate the aforementioned disadvantages.

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An earlier proposal is in the form of an optical device which comprises a pair of spectacle frames adapted for fitment in a welding helmet in alignment with a visor to assist a users vision. Such an arrangement provides means for overcoming vision problems for users but nevertheless

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suffers from a number of other difficulties. In particular the means of attachment of the frames to the helmet may involve small difficult to manipulate and easily broken catches.

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According to the present invention there is provided an optical aid comprising a frame, a generally rectangular optical lens in the frame, and means on the frame for securing the frame to a protective helmet adjacent to a visor portion of the helmet such that in use the lens is aligned with a users line of sight through the visor.

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Preferably the frame is a generally rectangular member having a slot for receiving the lens.

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Preferably also a pair of lenses are provided for fitment to the frame.

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Most peferably a range of alternative lenses may be provided having different optical characteristics for use by users of different optical abilities.

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Embodiments of the present invention will now be described, by way of example, with reference to the accompanying drawings, in which:

Fig. 1 is a front view of an optical aid of the invention;

Fig. 2 is a side view of the optical aid of Fig 1;
and

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Fig. 3 is a sectional side view corresponding to Fig. 1 and showing the device in a welder's helmet;

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Referring to the drawing an optical aid 1 in accordance with the present invention comprises a frame 2 formed preferably

from a pliable plastics material. Formations 3 at the top and bottom of the frame 2 form grooves 4 for receiving lenses 5. Stop members 6 and 7 at either end of the frame 2 retain the lenses 5 in position. For use in conjunction with a conventional welders helmet typical dimensions might be 105 mm by 50 mm for the frame and 50 mm by 45 mm for each of the lenses.

A selection of different lens powers may be provided which have been calculated to suit different age groups and optical abilities of welders and different working distances.

In use each welder is provided with a frame 2 fitted with a set of standard lenses chosen from the range in accordance with the age and his anticipated working distance. The welder can then secure the frame 2 and lenses 5 in his helmet in the position shown in Fig. 2 adjacent the visor 9 so as to improve his close vision during welding.

Modifications and improvements may be made without departing from the scope of the invention.

Claims

1. An optical aid comprising a frame, a generally rectangular optical lens in the frame, and means on the frame for securing the frame to a protective helmet adjacent to a visor portion of the helmet such that in use the lens is aligned with a users line of sight through the visor.

2. An optical aid as claimed in Claim 1, wherein the frame is a generally rectangular member having a slot for receiving the lens.

3. An optical aid as claimed in Claim 1 or 2, wherein a pair of lenses are provided for fitment to the frame.

4. An optical aid claimed in any one of the preceeding Claims, wherein a range of alternative lenses may be provided having different optical characteristics for use by users of different optical abilities.

5. An optical aid substantially as hereinbefore described with reference to and as shown in the accompanying drawings.